

## Patent Abstracts of Japan

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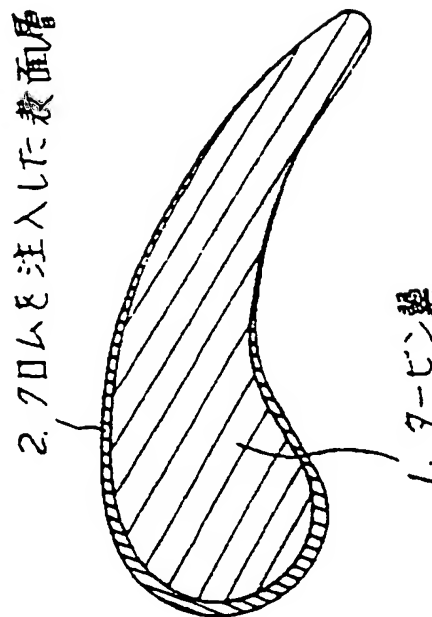
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TITLE : TURBINE VANE



ABSTRACT : PURPOSE: To prolong the life of a turbine vane by implanting ions of a specified element into the surface of a fiber reinforced metal such as Al or Ti alloy reinforced with whiskers so as to improve the erosion and corrosion resistances of the resulting turbine vane.

CONSTITUTION: Ions of 1-3 kinds of elements selected among Cr, Ti, Mo, W, Ni, Si, C, N, O, B, Ba, Ca, Y, Al, Zr and Sr are successively implanted into the surface of a metallic composite material for a turbine vane 1 at about 50-500keV acceleration voltage by about  $10^{14}$ - $10^{19}$  ions/cm<sup>2</sup>. The metallic composite material is a fiber reinforced metal obtd. by reinforcing an Al or Ti alloy as a base alloy with ceramic filaments or whiskers of one or more among B, SiC, C and Al<sub>2</sub>O<sub>3</sub>. Thus, a turbine vane having an erosion and corrosion resistant surface layer (e.g., a CR implanted surface layer) 2 is obtd.

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